

Tip 10 (January/February 2010)

Always measure waist circumference

As noted in *Tip 6* (September 2009), obesity, insulin resistance, and hypertension commonly cluster with other risk factors for cardiovascular and chronic kidney disease to form the metabolic syndrome¹. This syndrome carries with it a high risk (6x increased) of progression to overt diabetes, as well as a 2-3x higher risk of cardiovascular events than predictable from a simple summation of the individual risk factors.

There are several definitions of the metabolic syndrome, but the most inclusive, and the one I use is that of the International Diabetes Federation (IDF)².

This definition requires **increased waist circumference** plus **at least 2** of:

Fasting triglyceride > 1.7mmol/l

HDL cholesterol < 1.03mmol/l (men) or 1.25 (women)

BP > 135/85

Fasting plasma glucose > 5.6mmol/l

In other words, increased waist circumference is central to the definition of metabolic syndrome and is a marker of the insulin resistance that is thought to underly the condition

“Normal” waist circumference for Europeans is < 94cm (men) and < 80cm (women); South Asians < 90cm (men) and < 80cm (women); Japanese < 85cm (men) and < 90cm (women). There is no currently well-validated normal for Polynesians.

Waist measurements should be taken as the patient breathes out. They should relax and not contract any abdominal muscles. Align the tape measure at the level of the umbilicus, and circle the whole way round the body and back to the starting point.

Waist circumference is cheap and easy to measure, and should be part of every routine physical examination. An abnormal measurement should prompt a search for other features of the metabolic syndrome.

1. *Secondary Hypertension: Obesity and the metabolic syndrome.* Singer GM, Setaro JF. *J.Clin.Hypertens.*2008;10:567-574
2. www.idf.org/webdata/docs/MetS_def_update2006.pdf